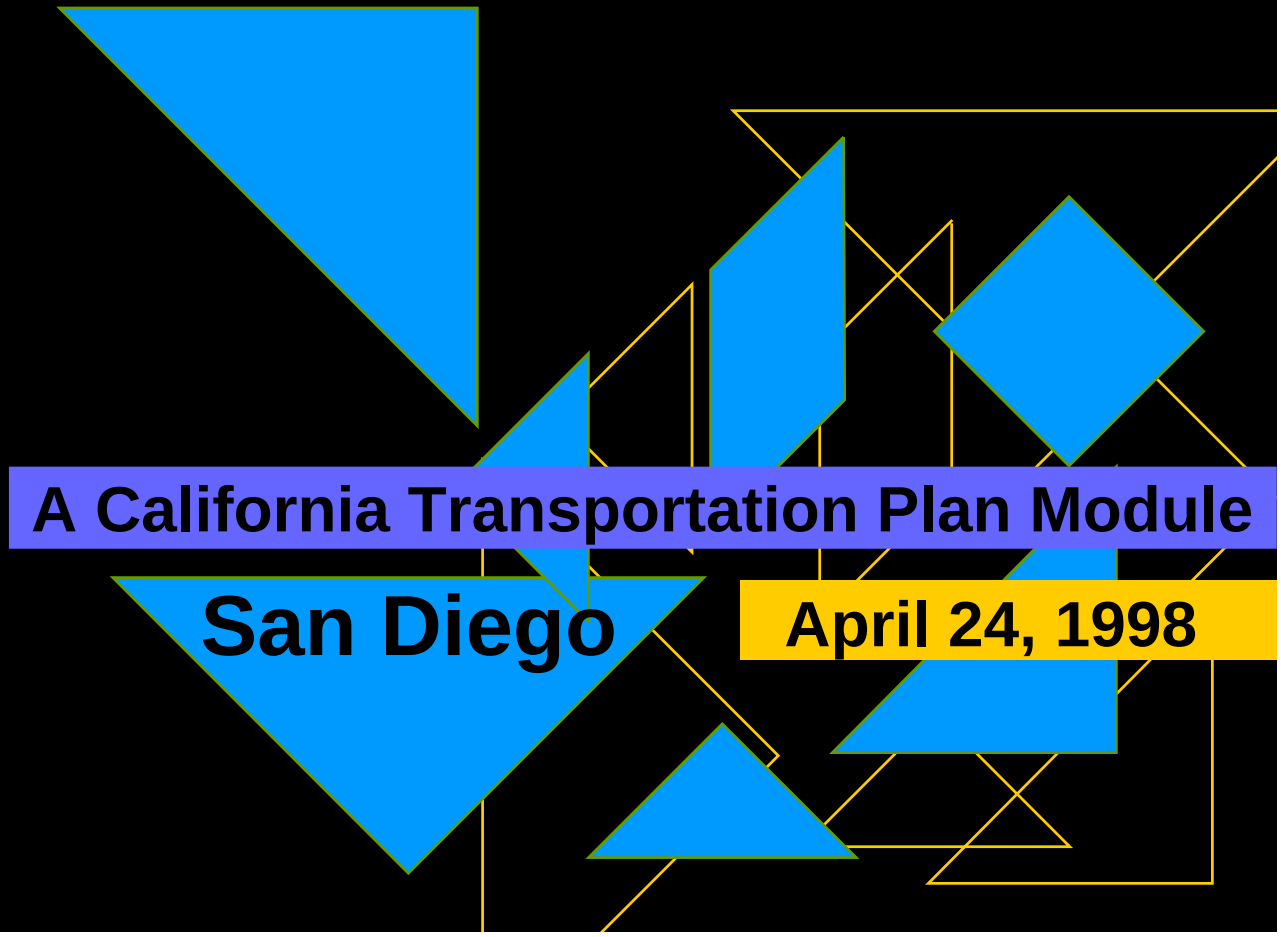
TRANSPORTATION SYSTEM PERFORMANCE MEASURES



A California Transportation Plan Module

San Diego

April 24, 1998

Presentation Outline

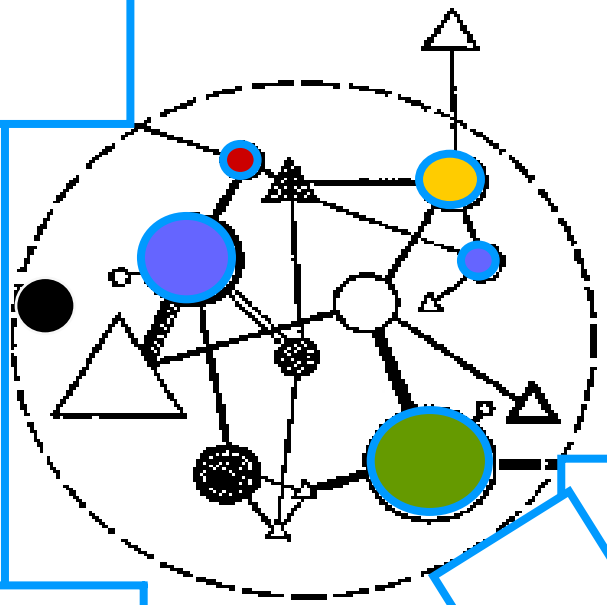
- What it is we're proposing
- Why we're proposing it
- How we propose developing
- Where we are with performance indicators

Background

- The Intermodal Surface Transportation Efficiency Act 1991
  - A system vision - “all forms of transportation in a unified, interconnected manner”
  - A call for better management with an eye on performance
- The California Transportation Plan 1993
  - Executive Order - “California’s transportation system should be a modern, balanced, integrated multi-modal network”
  - “develop appropriate transportation system performance objectives and measures”
- SB 45 - “objective criteria for measuring system performance” as part of STIP Guidelines

A System.....

A system is a set of interconnected parts



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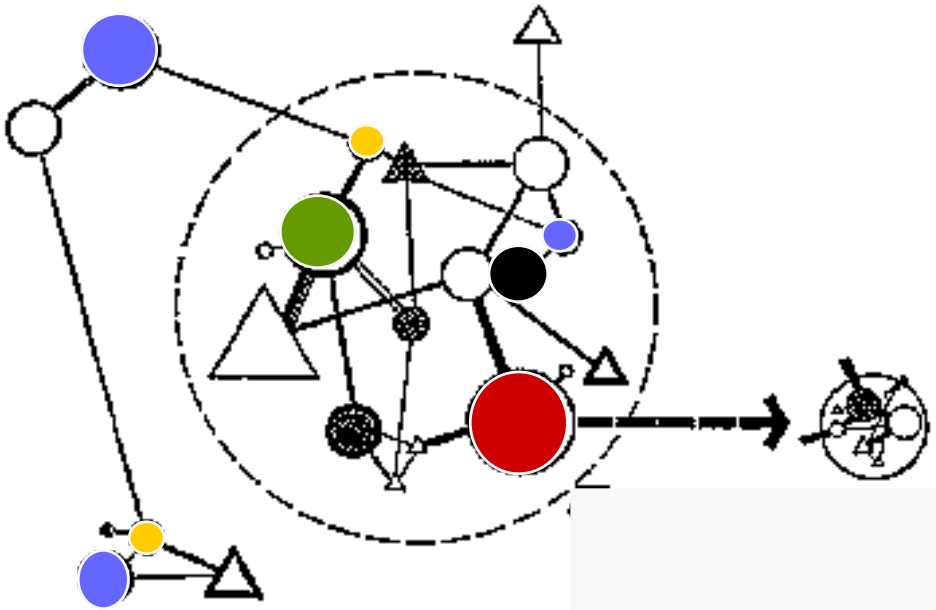

But each part may be seen as a system itself....

A System.....

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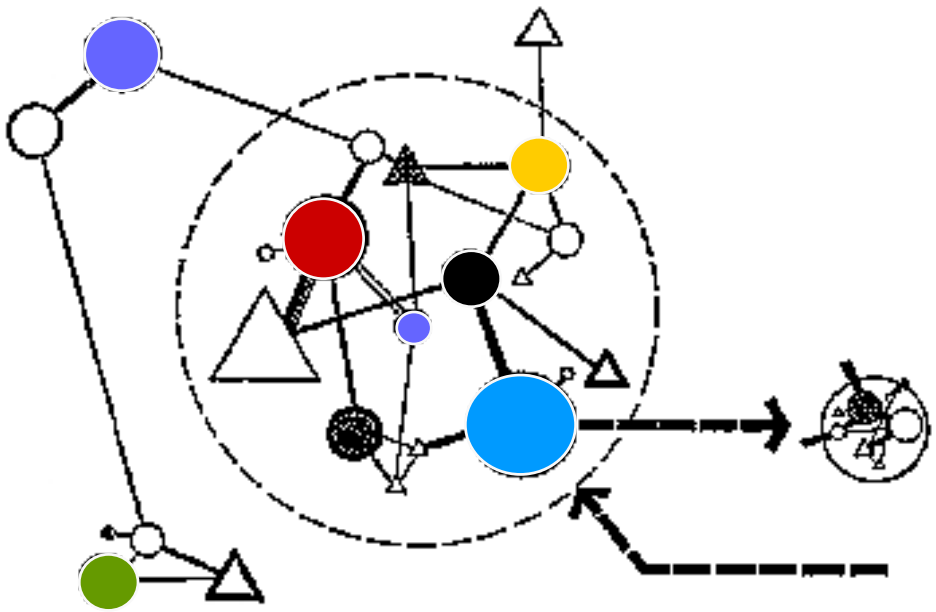


But each part may be seen as a system itself....

.....And the whole system may be regarded as one part of a larger system

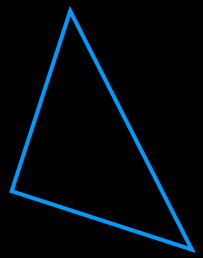
What Performance Measurement Is

- A standard management function to help understand accomplishments
- Critical Elements: clear purpose and simple set of metrics based on readily obtainable data

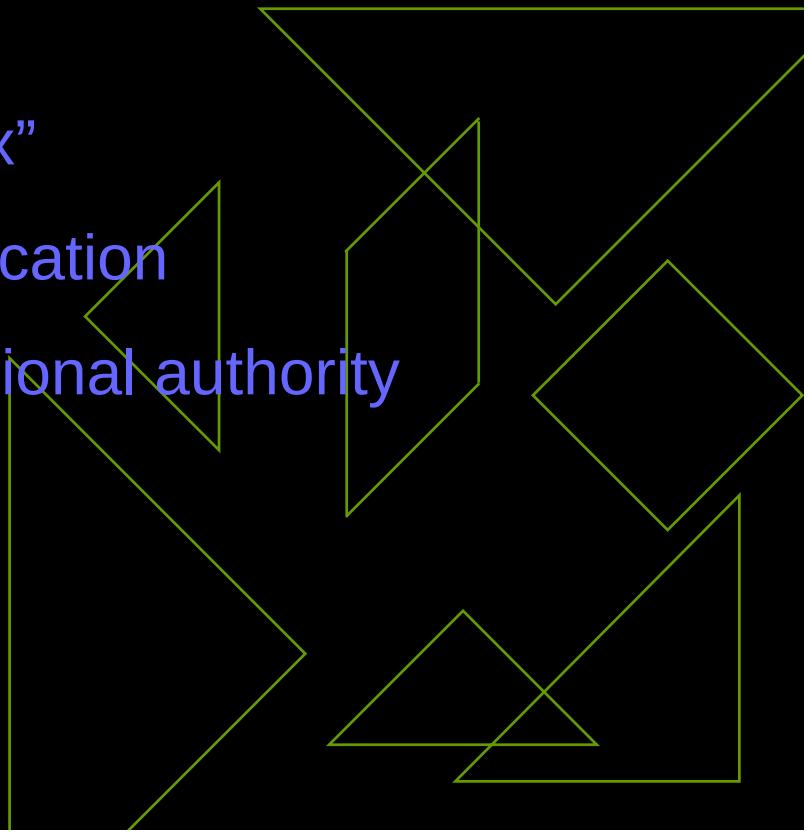
What Performance Measurement Is

- Responsible management
- A planning tool to improve investment analysis
- Customer-oriented as opposed to service provider-driven
- Genuine system perspective, as modally blind as possible
- First-cut - lengthy, evolving process

What Performance Measurement Is Not



- A panacea
- An isolated exercise
- A magical “black box”
- A naive over-simplification
- An usurpation of regional authority



What Are We Measuring?

- An organization's performance? - No!
- Mode, program or any sub-system performance? - No!
- Outcomes of the total transportation system? – Yes!

Purpose

- To develop indicators/measures to assess the performance of California's multi-modal transportation system to support informed transportation decisions by public officials, operators, service providers, and system users.
- To establish a coordinated and cooperative process for consistent performance measurement throughout California.

Goals

- Understand the role the transportation system plays in society
- Focus on outcomes at the system level rather than projects and process (performance in the eye of the customer)
- Build transportation system relationships (partners) with clearly defined roles, adequate communication channels, and accountability at all levels
- Better illuminate and integrate transportation system impacts of non-transportation decisions

Module Approach

- Transportation Assessment Steering Committee (TASC)
- Policy Advisory Committee
- Other Outreach - Conference, Workshops

Conference Themes

- Outcome vs. output performance measures
- Performance measures should be decisions tools not decision rules
- Emphasize the product not the process
- Political buy-in for successful measures
- Include the user and customer in the process

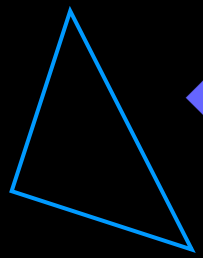
Issues Identified

- Intergovernmental and interregional issues
- Intermodal
- Achieving simplicity and comprehensiveness
- Data: cautions and prospects

Module Workplan

- Review existing performance measurement efforts
- Identify transportation system outcomes
- Develop indicators/measures which correlate to the outcomes
- Develop an implementation scheme
- Do it!

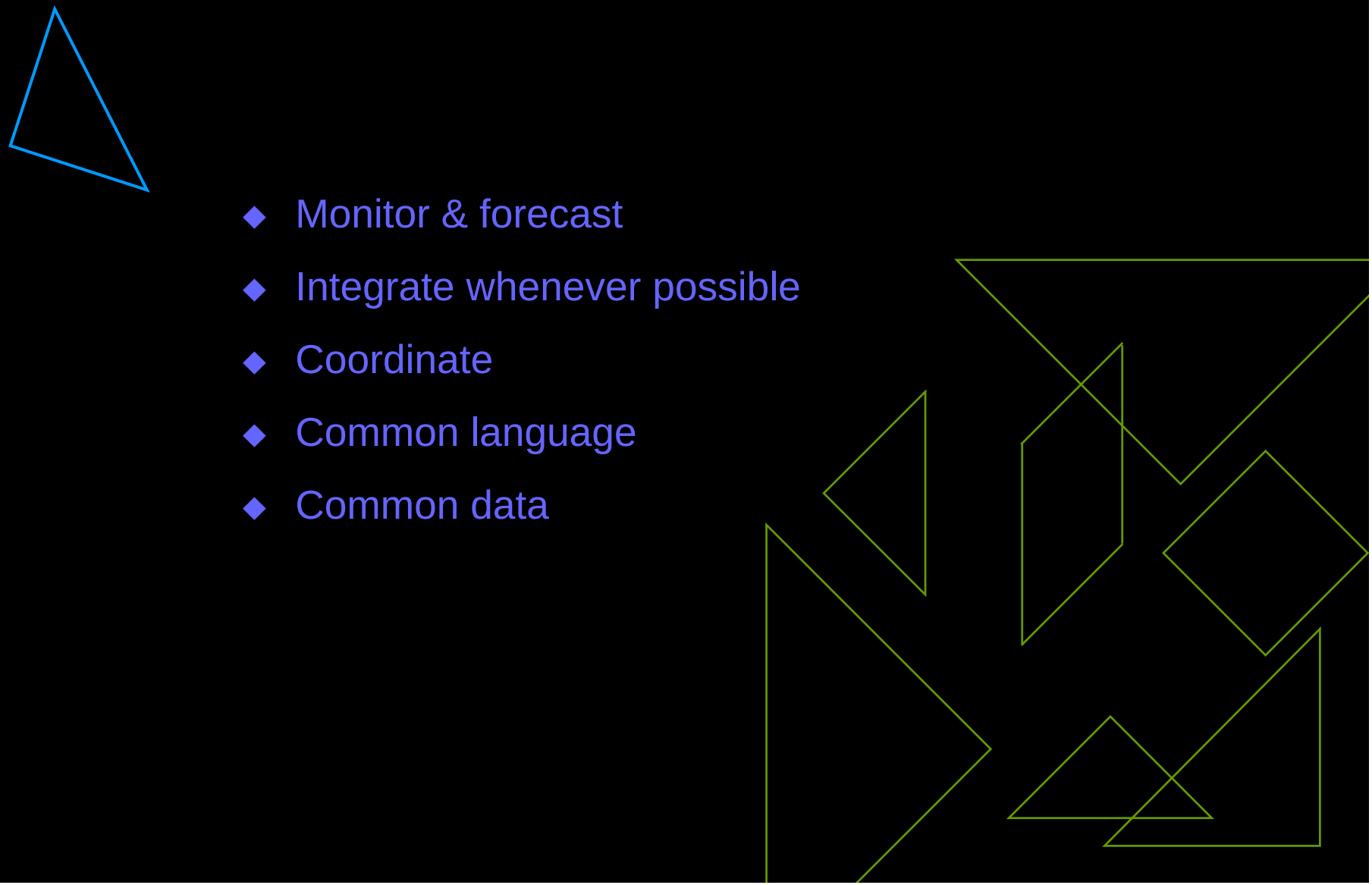
Design Criteria



- Indicators must be easy to use/simple to understand
- Indicators must be measurable across all modes
- Use existing data sources and conform to existing performance activities (MTC, SCAG, ITMS, etc.) Wherever and whenever possible

Proposal

- Monitor & forecast
- Integrate whenever possible
- Coordinate
- Common language
- Common data



Outcomes

- **MOBILITY/ACCESSIBILITY**
- **RELIABILITY**
- **COST-EFFECTIVE**
- **SUSTAINABILITY**
- **ENVIRONMENTAL QUALITY**
- **SAFETY & SECURITY**
- **EQUITY**
- **CUSTOMER SATISFACTION**
- **ECONOMIC WELL-BEING**

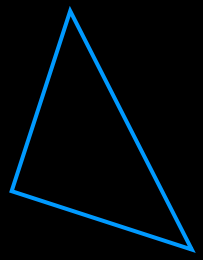
Outcomes

- MOBILITY/ACCESSIBILITY -- reaching desired destinations with relative ease within a reasonable time, at a reasonable cost with reasonable choices.
- RELIABILITY -- providing reasonable and dependable levels of service by mode.
- COST-EFFECTIVE -- maximizing the current and future benefits from public and private transportation investments.
- SUSTAINABILITY -- preserving the transportation system while meeting the needs of the present without compromising the ability of future generations to meet their own needs

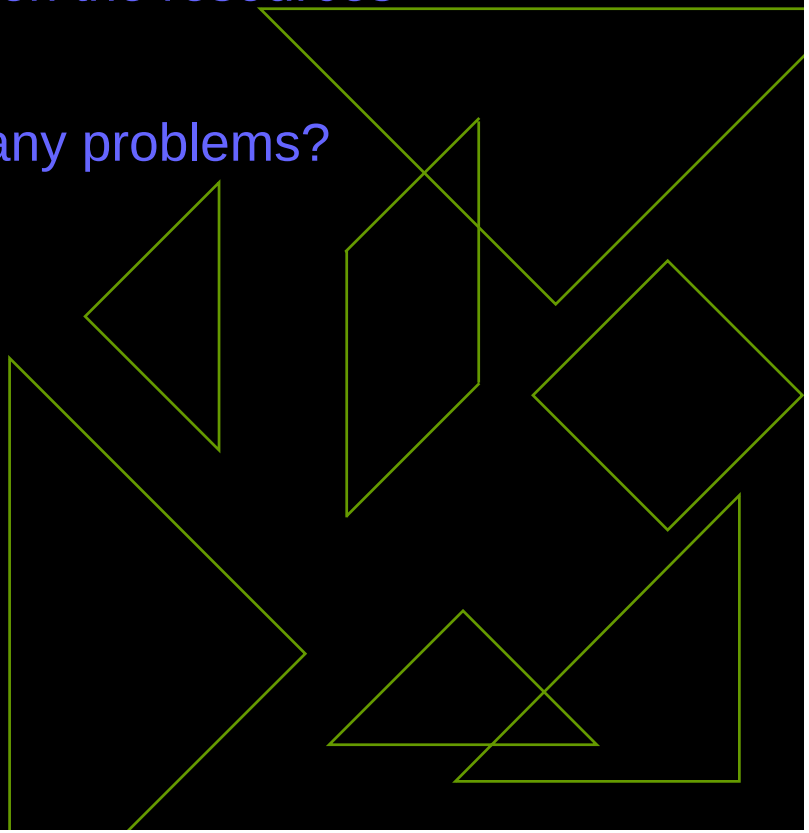
Outcomes

- ENVIRONMENTAL QUALITY -- Helping to maintain and enhance the quality of the natural and human environment.
- SAFETY & SECURITY -- Minimizing the risk of death, injury, or property loss.
- EQUITY-- Fair distribution of benefits and burdens
- CUSTOMER SATISFACTION -- Providing transportation choices that are convenient, affordable and comfortable.
- ECONOMIC WELL-BEING - Contributing to economic growth

Getting Results



- Are we getting it done? - Effective
- How well are we doing it given the resources allocated? - Efficient
- In doing it, are we creating any problems?



Outcomes

Efficiency/ Effectiveness

- **Mobility/Accessibility**
- **Reliability**
- **Cost-effective**
- **Customer Satisfaction**
- **Economic Well-being**

Responsibility

- **Safety & Security**
- **Environmental Quality**
- **Sustainability**
- **Equity**

Outcomes & Indicators

Mobility / Accessibility

- Travel Time
- Delay
- Access to Locations
- Access to System

Reliability

- Variability of Travel Time

Customer Satisfaction

- Customer Survey

Outcomes & Indicators

Cost-Effectiveness

- Benefit/Cost Ratio
- Outcome Benefit Per Cost

Sustainability

- Household Transportation Costs

Economic Well-Being

- Final Demand- Value of Transportation to Economy

Outcomes & Indicators

Environmental Quality

- National & State Standards

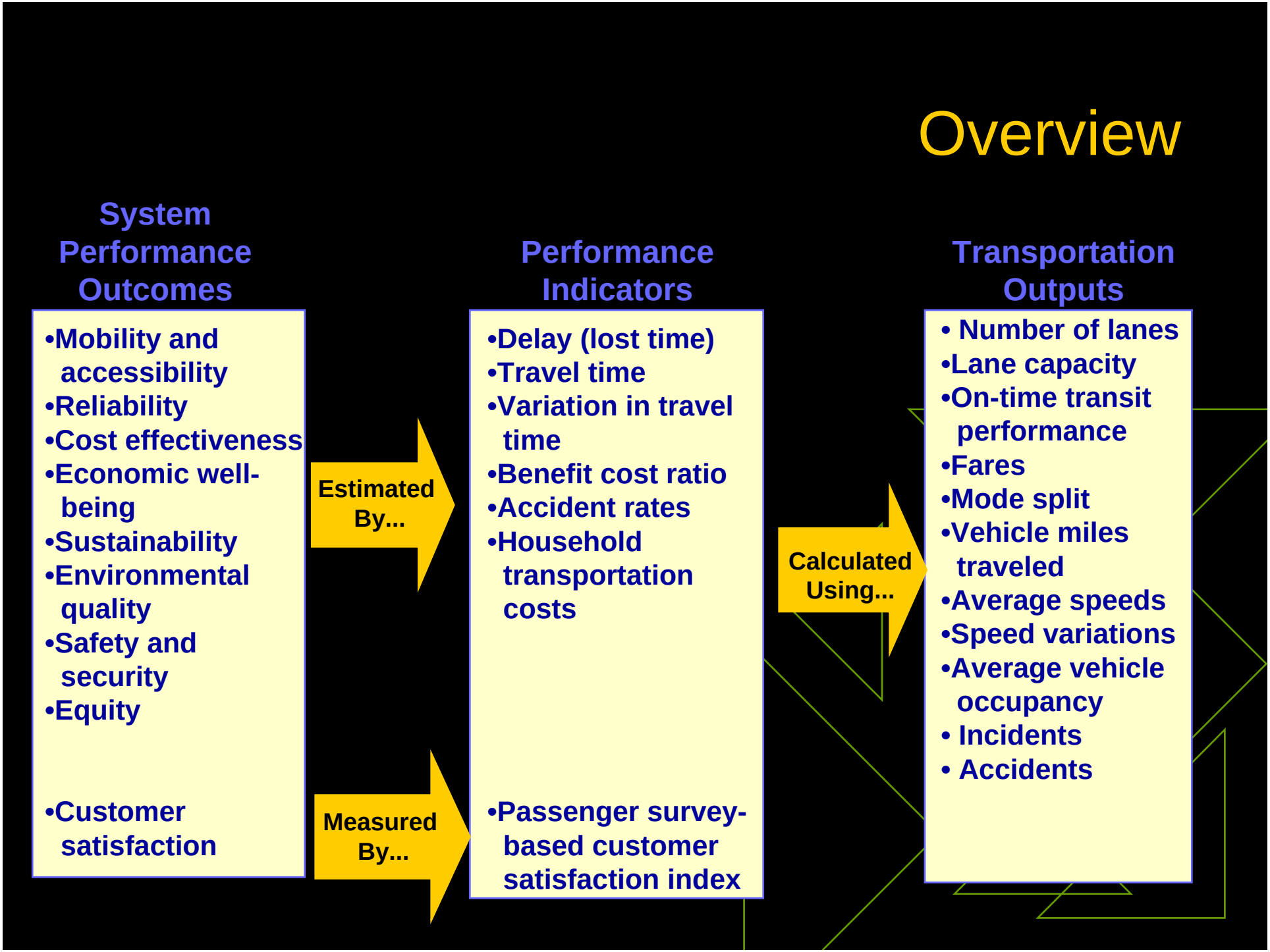
Safety & Security

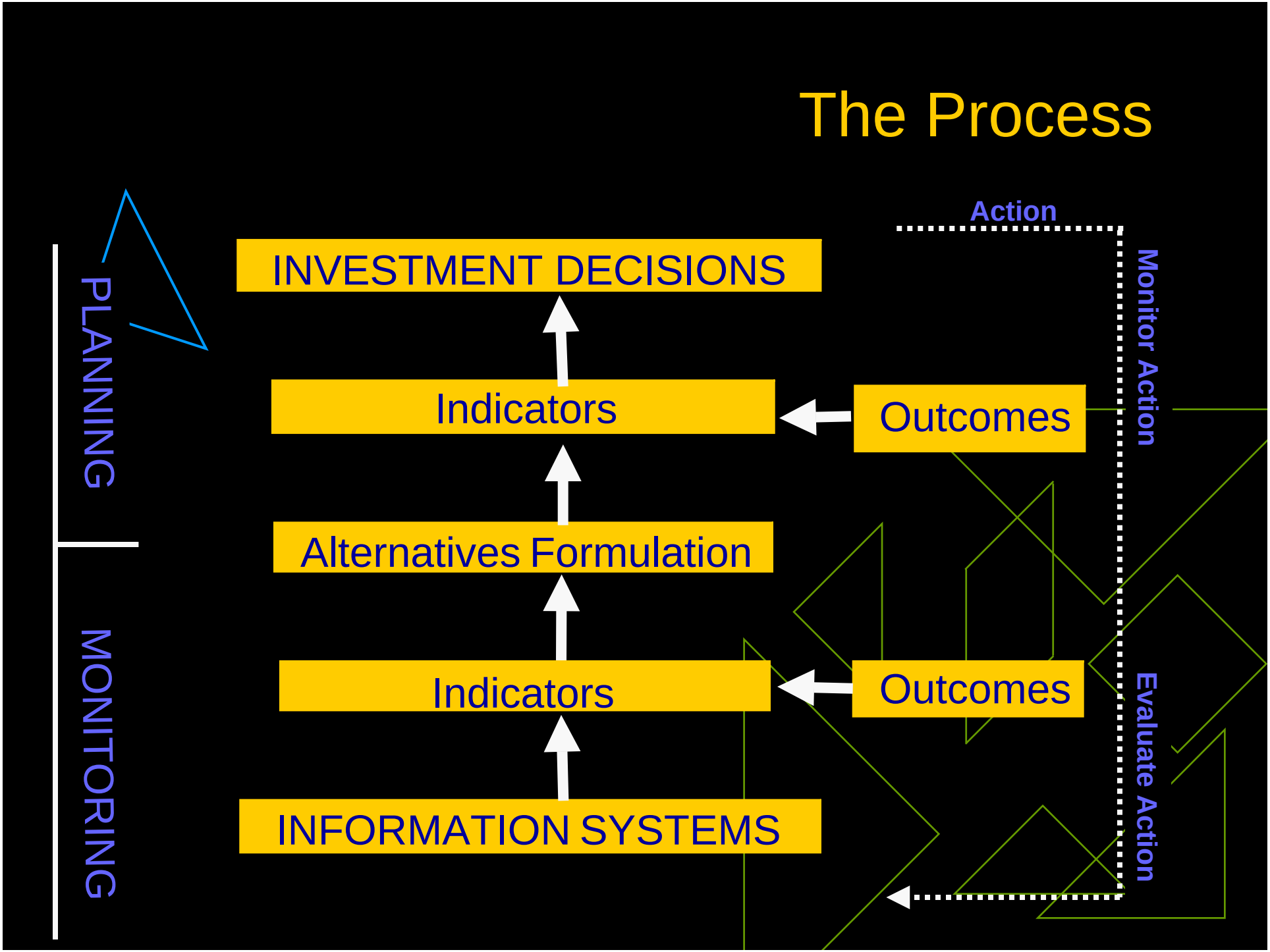
- Accident & Crime Rates

Equity

- Benefits Per Income Group

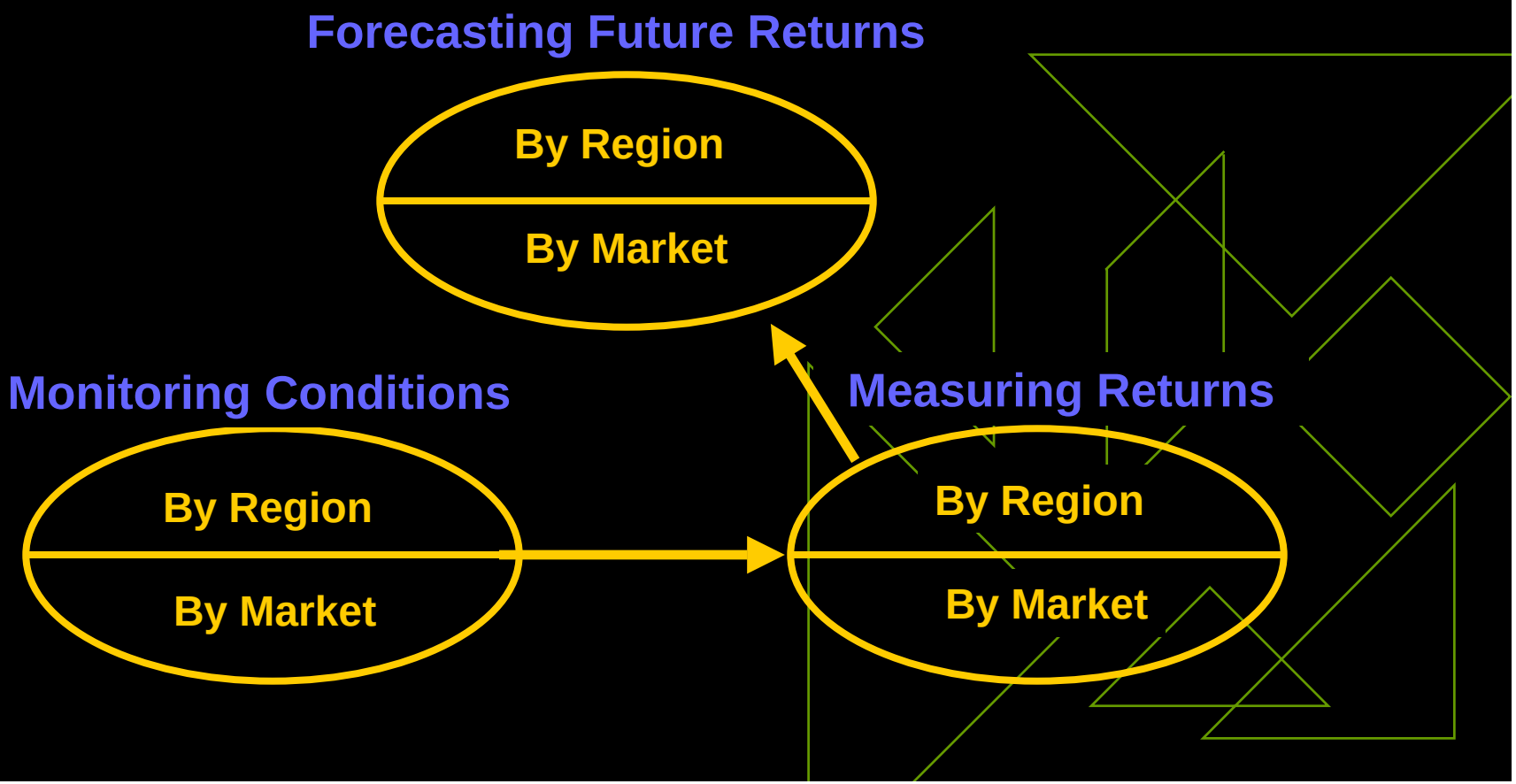
Overview


System Performance Outcomes
•Mobility and accessibility
•Reliability
•Cost effectiveness
•Economic well-being
•Sustainability
•Environmental quality
•Safety and security
•Equity
•Customer satisfaction
Estimated By...
Measured By...
Performance Indicators
•Delay (lost time)
•Travel time
•Variation in travel time
•Benefit cost ratio
•Accident rates
•Household transportation costs
•Passenger survey-based customer satisfaction index
Calculated Using...
Transportation Outputs
• Number of lanes
•Lane capacity
•On-time transit performance
•Fares
•Mode split
•Vehicle miles traveled
•Average speeds
•Speed variations
•Average vehicle occupancy
• Incidents
• Accidents

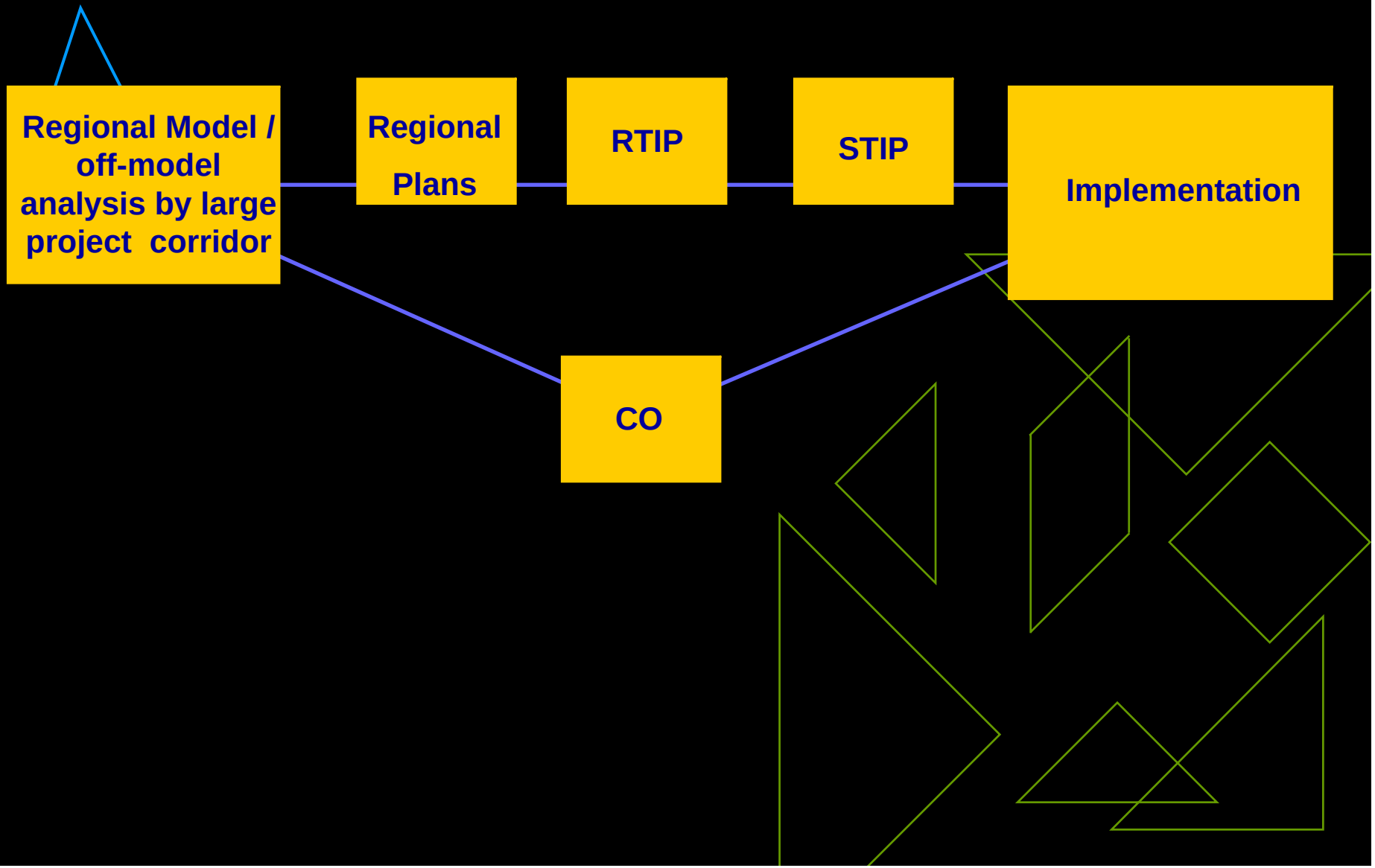

The Process
Action
INVESTMENT DECISIONS
Indicators
Outcomes
Alternatives Formulation
Indicators
Outcomes
INFORMATION SYSTEMS
PLANNING
MONITORING
Monitor Action
Evaluate Action

System Performance

A CONTINUOUS PROCESS

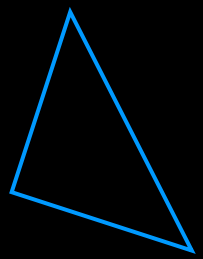


Decision Linkage

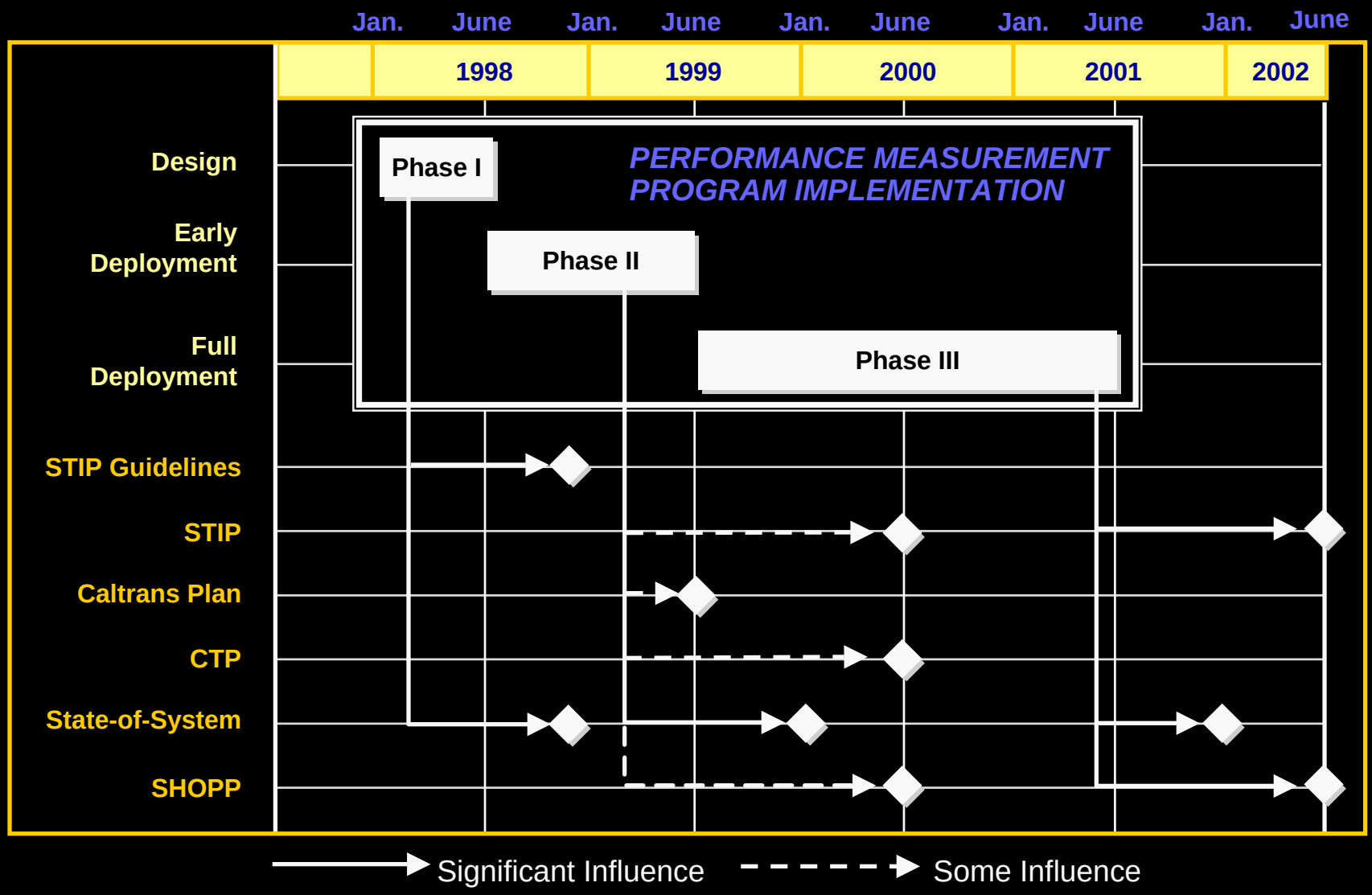


Implementation -- Work In Progress

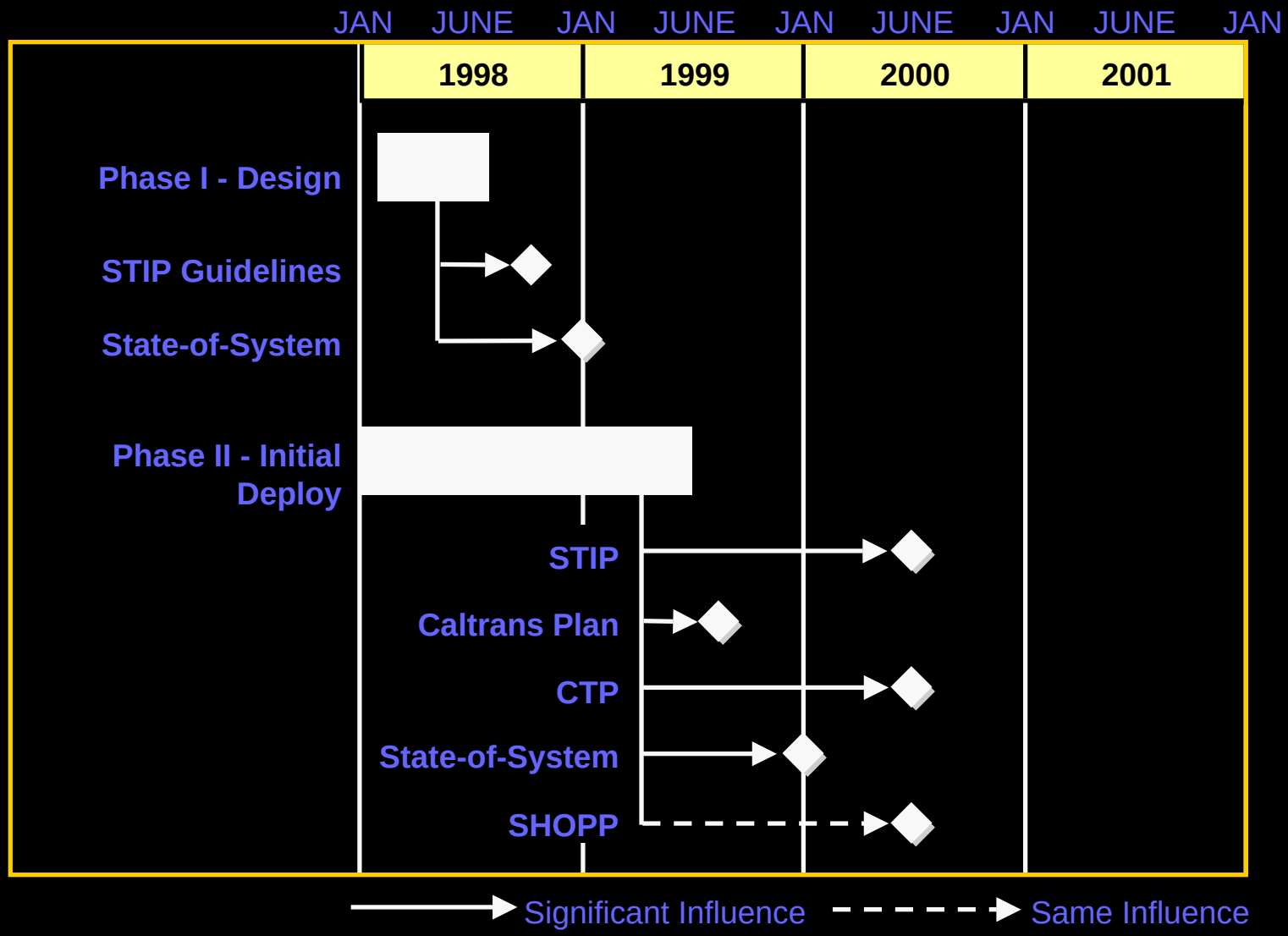
- Definition of Roles
- Identification of Costs



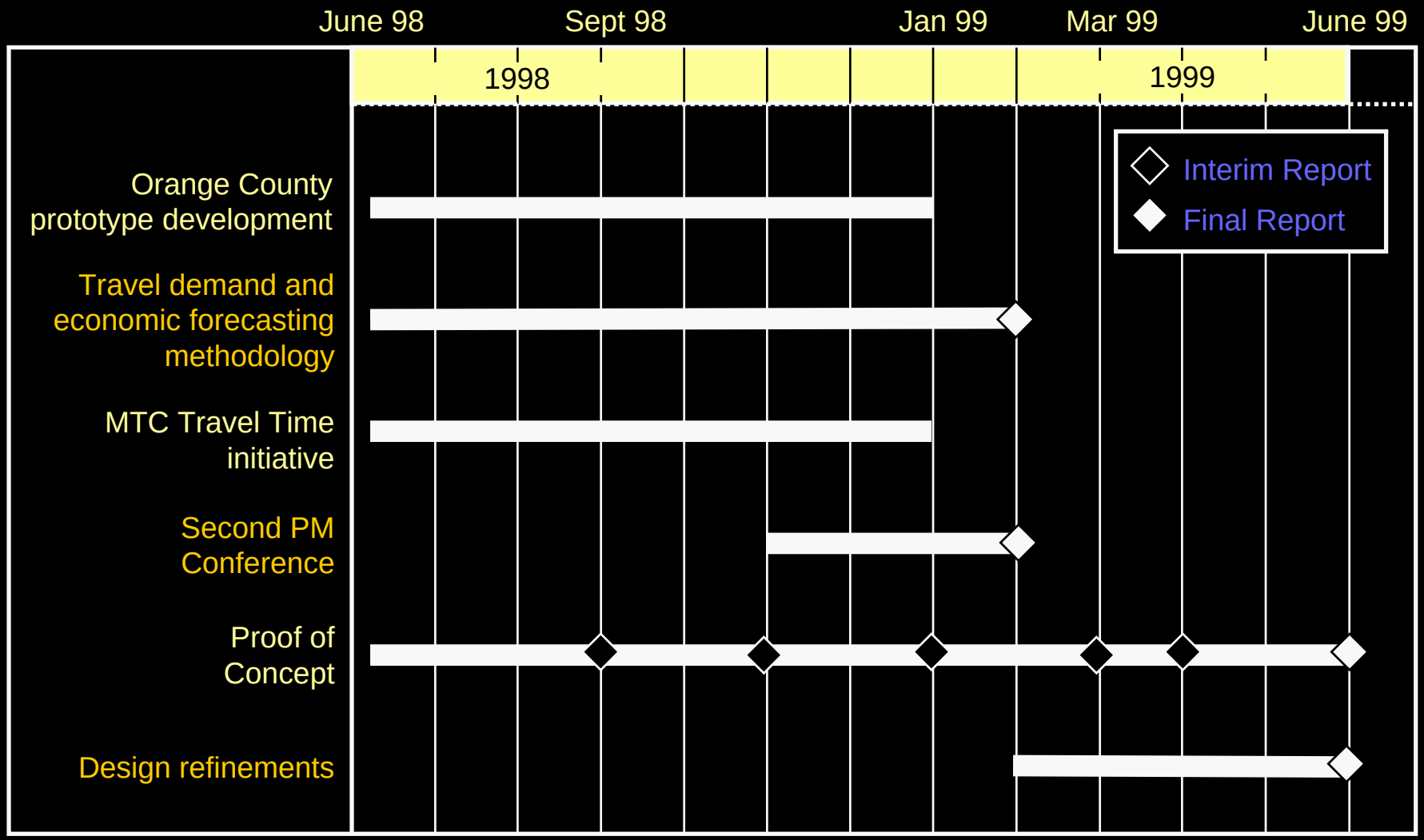
Overall Implementation Schedule



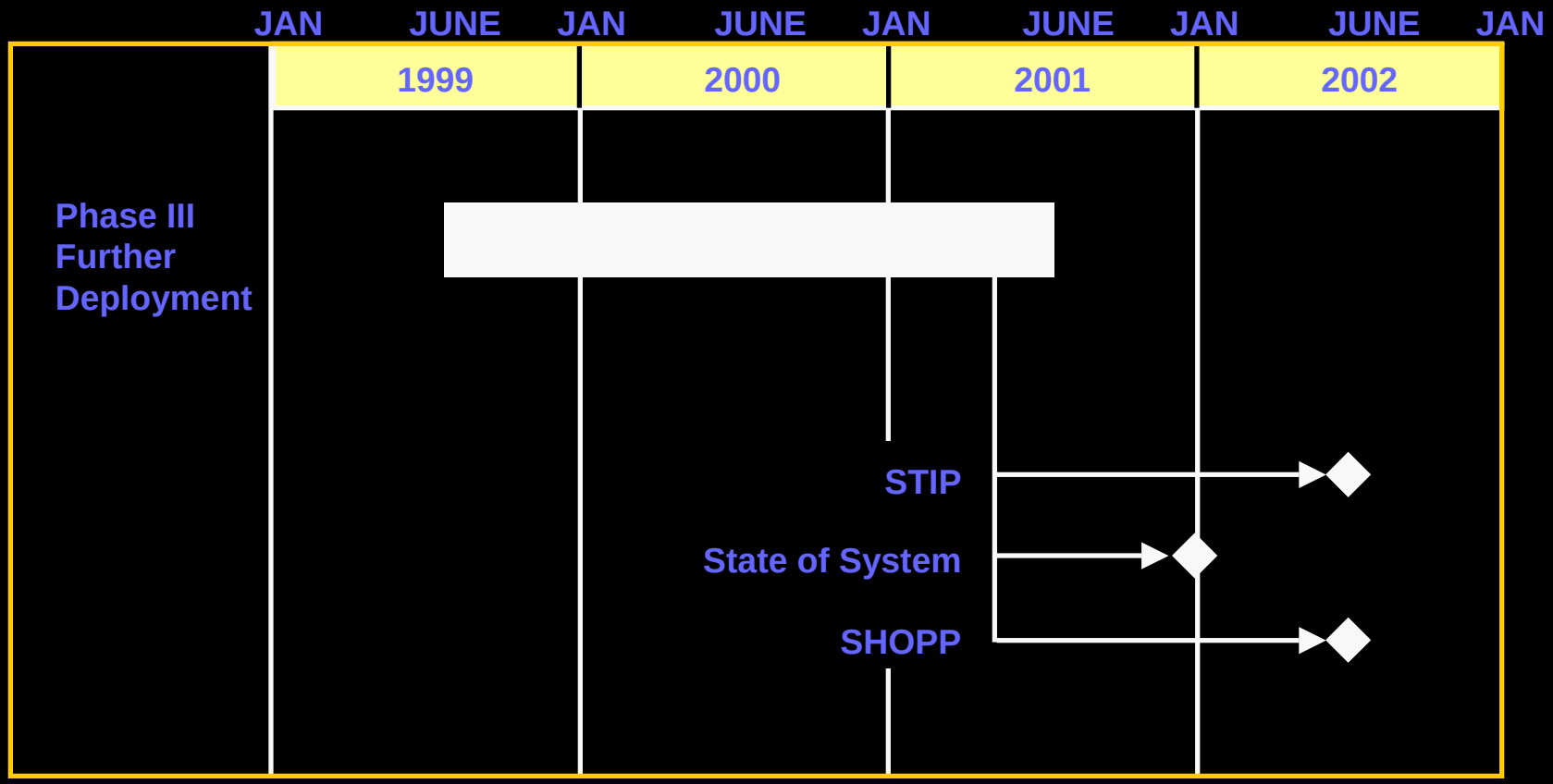
Phase I / II Schedule



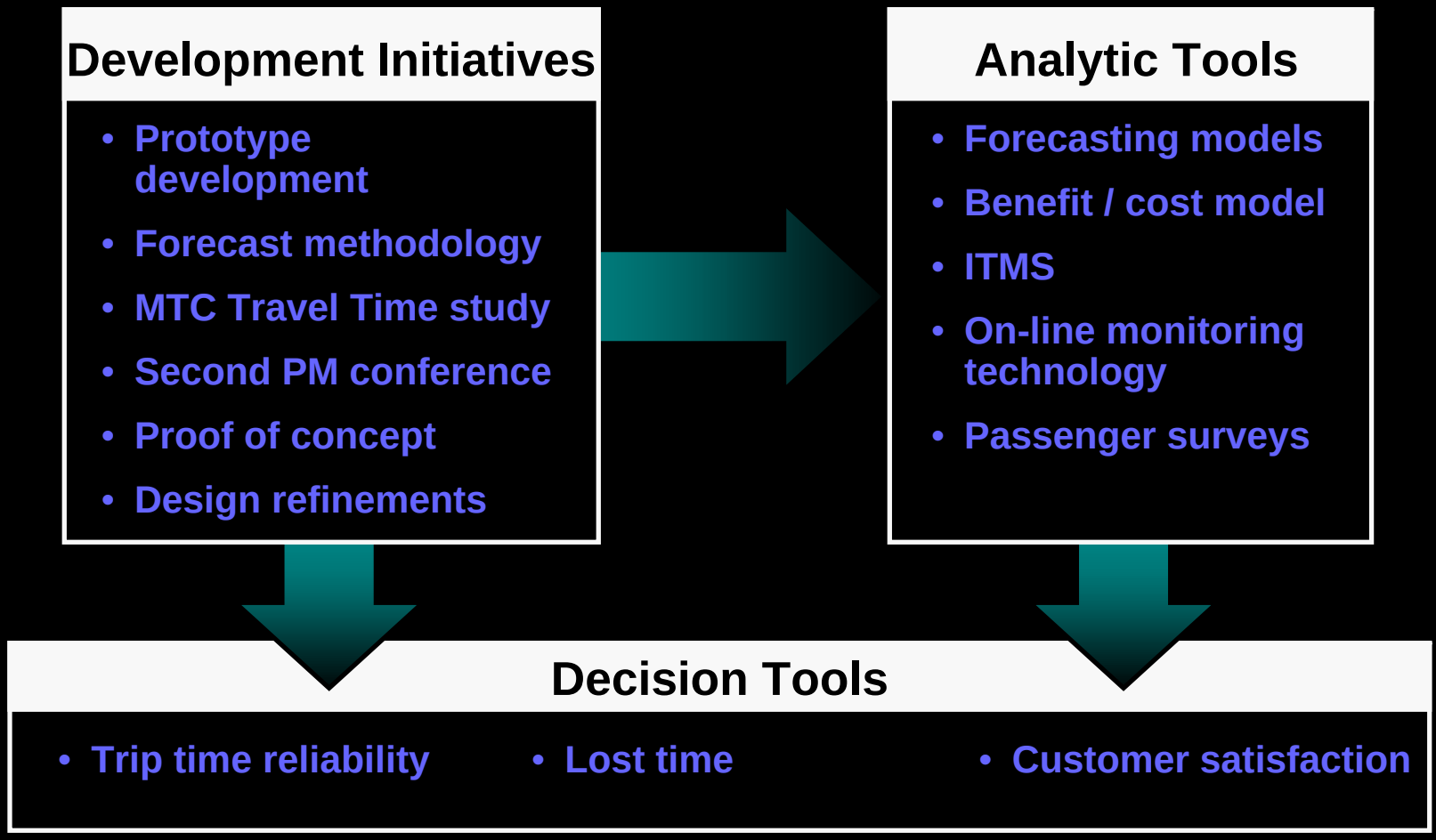
Phase II Schedule Details



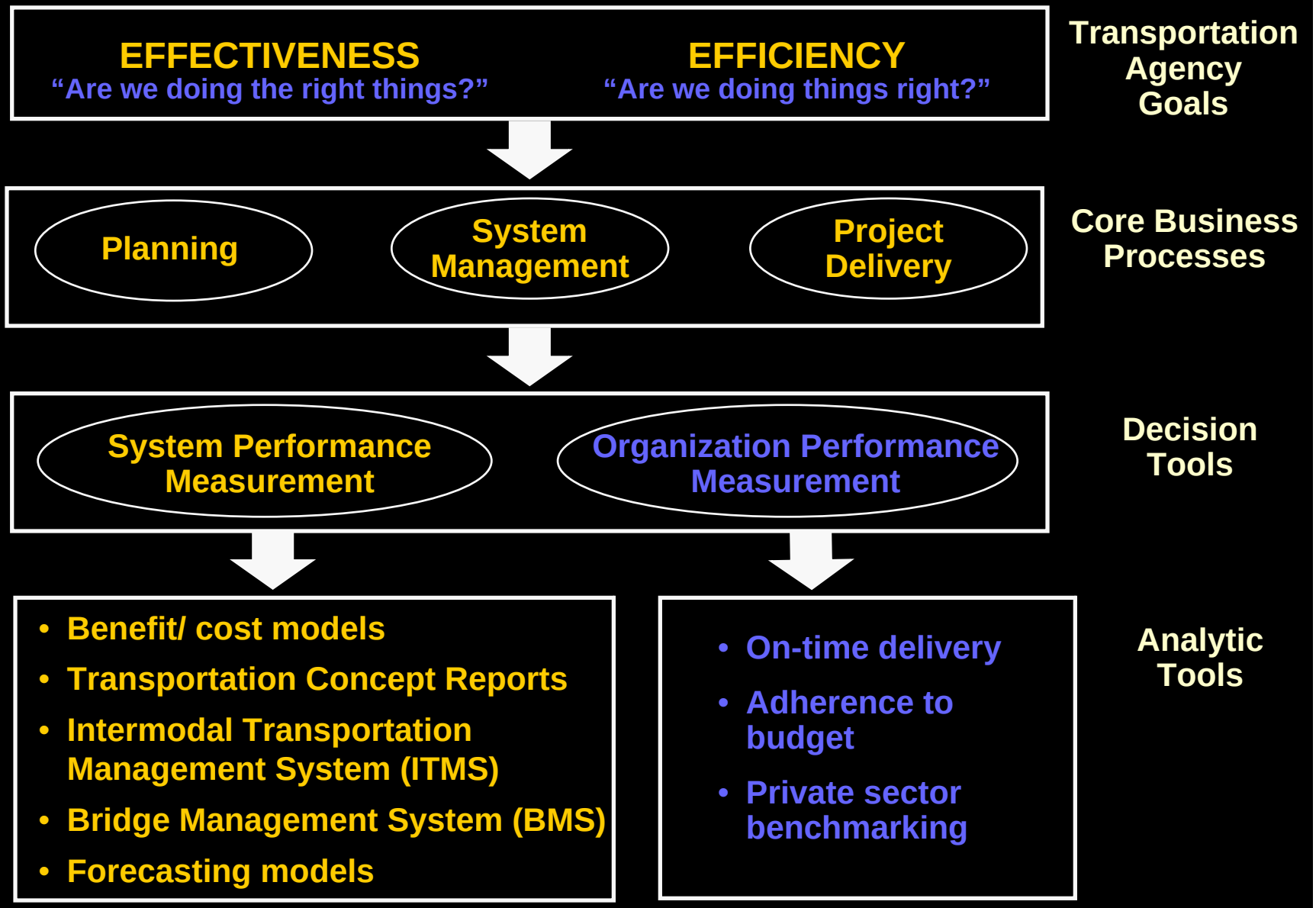
Phase III Schedule



Phase II Improvements



How Does Performance Measurement Fit?



Bottom Line

- Better business practices
- Essential for system management
- Opportunity for stronger, clearer partnerships